Nevada
DEPARTMENT
OF
EDUCATION

GRADE
8

Nevada

Instructional Materials

FOR THE

CRITERION REFERENCED TEST

Grade 8

MATHEMATICS

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Dear educators,

The following materials, developed in cooperation with the Nevada Department of Education and our educational laboratory, WestEd, are designed to be used as part of a guided instructional activity to support student performance on assessments. While these materials can provide students with practice in answering assessment items, we believe it is critical that these materials be used to help students understand the elements of the state assessment and to guide them in the use of effective strategies that will support their ability to comprehend and take a variety of assessments. If you choose, however, to use this support document solely as a practice activity, we highly recommend that you go back over each item with students and investigate each response to better understand their knowledge of the assessment.

Types of Questions
The mathematics test includes two basic types of questions—multiple-choice items for all grades (3 through high school) and constructed-response items for grades 4 through 8. To help prepare students for constructed-response questions, we have provided you with:

1. the student checklist (included in the student test booklet at grades 4 and 5)
2. the general student rubric (included in the student test booklet at grades 6 through 8)
3. item-specific rubrics

With the use of these materials, students can become familiar with the different types of questions used on the state assessments. They can learn to use the checklist or rubric to determine if they have answered the constructed-response questions completely. Familiarity with the tools provided as part of the test and the vocabulary of the standards can result in less anxiety on the part of students. Please note that the student checklist and general rubric can be on the walls of your classroom throughout the school year. As you assign constructed-response questions, students can use these tools as they develop their answers.

The types of questions on these documents allow for the assessment of different levels of cognitive demands, which are explained below. The questions are developed so that students can demonstrate mathematical thinking at multiple cognitive levels. Teaching students to identify, write, and use different levels of questioning skills as they assess various mathematical concepts can only lead to improved achievement on classroom, state, and national assessments. The use of this material will assist in the creation of a student who is a powerful mathematical thinker.

Cognitive Ability Levels
The assessment of mathematics as part of Nevada's Proficiency Examination Program includes the assessment of three cognitive ability levels. These ability levels are based on the National Assessment of Educational Progress (NAEP) Aspects of Mathematics. The following are the three levels used in the state of Nevada:

Conceptual Understanding (A-1) – Students will be asked to apply and know facts and definitions. They also will be asked to use and relate models, diagrams, manipulatives or representations of concepts and principles, as well as extend the nature of concepts and principles. The students also will interpret assumptions and relations involving concepts and principles in mathematical settings.

Procedural Knowledge and Skill (A-2) – Students will be asked to use mathematical algorithms to efficiently complete a task. They can perform non-computational tasks such as rounding and ordering. Students also can produce or interpret tables, graphs and constructions. They will use reasoning to connect algorithms and skills to complete a given task.

Problem Solving (A-3) – Students will be asked to use strategies, data, models, and relevant mathematics effectively. They can generate, extend, and modify procedures to fit new situations. Student will be able to judge and document the validity and appropriateness of solutions in novel mathematical and practical situations.

Mathematical Content Literacy

The Nevada Department of Education believes that students are not thoroughly being taught the content and vocabulary of the Nevada Mathematics Content and Process Standards. For example, mean, total, stem and leaf, and translate are terms used in the assessments at grade-appropriate levels and can have different meanings depending upon how the word is used.

Students in Nevada, therefore, must have repeated experiences with **hearing** (oral vocabulary), **reading**, and **writing** the vocabulary of the standards in order to be successful on the state assessment as well as in classroom and district tests. Make sure that your students know the language of the standards that are being tested. They should be able to recognize the vocabulary of the standards when you discuss them in class and read them in texts, and they should be able to effectively use the words in their writing. This will be especially useful when students are working on the constructed-response items of the exam.

We hope that interaction with these instructional support materials will lead to lowered anxiety and better understanding of the assessment task that is being presented to students. If you have questions about the mathematics materials or how to embed this information into your curriculum, please contact Dave Brancamp at dbrancamp@doe.nv.gov or call (775) 687-9133, and he will work with you on making these documents beneficial to you and your students.

Cindy Sharp
K – 12 CRT/HSPE Consultant
Nevada Department of Education

Name: _____

Mathematics
Grade 8

This booklet contains mathematics questions for you to answer. There are two types of questions in this booklet. For the multiple-choice questions, you will be given four answer choices—A, B, C, and D. You are to choose the correct answer from the four choices. Each question has only one right answer. The written-response questions require you to give a written response to a question as indicated in the booklet. You will be given a separate sheet of paper to answer these questions.

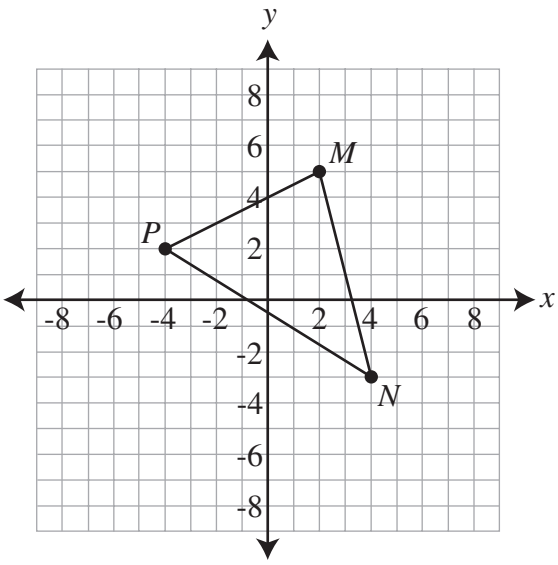
You may use the rubric below to help you do a good job when you are answering the written-response questions.

Score	Expectation
Full Credit	Your response addresses all parts of the question clearly and correctly. You use and label the proper math terms in your answer. Your response shows all the steps you took to solve the problem.
Partial Credit	Your response addresses most parts of the question correctly. Your response does not show all of your work or does not completely explain the steps you took to solve the problem.
Minimal Credit	Your response addresses only one part of the question correctly and explains the steps you took to solve that one part. In answering the remaining parts of the question, your response is incomplete or incorrect. Your response does not show all of your work or does not explain all of the steps you took to solve the problem.
No Credit	Your response is incorrect.

1 Which number is equivalent to 3.01×10^{-8} ?

A 0.00000000301
B 0.0000000301
C 301,000,000
D 30,100,000,000

2 Triangle *MNP* is graphed on the coordinate plane below.



What is the length of $\overline{PN}$?

$\left(\text{Use } d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}\right)$

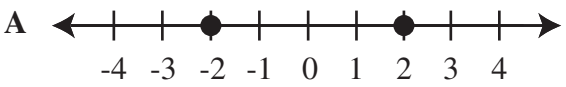
A $\sqrt{39}$

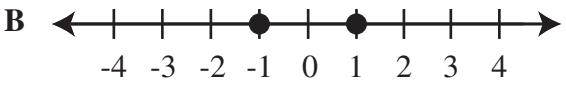
B 9

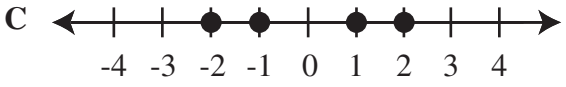
C $\sqrt{89}$

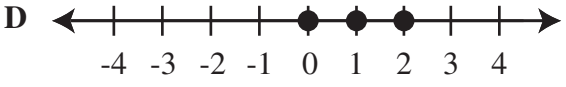
D 13

3 Which graph represents the solution of the equation $|x| = 2$?

A


B


C


D


4 Gina has 3 different shirts that she can combine with 3 different pairs of pants and 2 different pairs of shoes to make several different outfits. How many different outfits consisting of 1 shirt, 1 pair of pants, and 1 pair of shoes can Gina make?

A 2 outfits
B 8 outfits
C 12 outfits
D 18 outfits

5 Joe must determine the capacity of seven different containers. Which measurement tool is **most** appropriate for Joe to use to determine the capacity of each container?

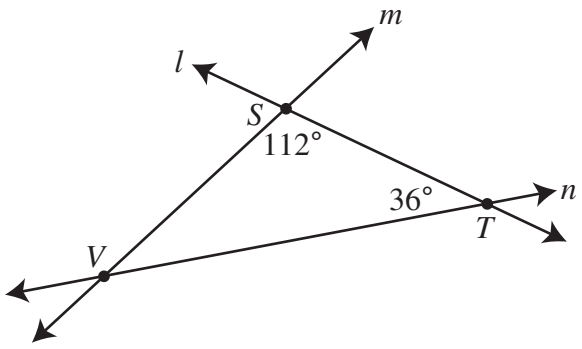
A a ruler
B a measuring cup
C a balance scale
D a thermometer

Go On

6 Josiah, Nick, and Angie shared a full plate of brownies. Josiah ate 0.2 of the brownies, Nick ate $\frac{5}{8}$ of the brownies, and Angie ate the rest of the brownies on the plate. What percent of the full plate of brownies did Angie eat?

A 30%
B 22%
C 17.5%
D 12.5%

7 Line *l*, line *m*, and line *n* intersect to form triangle *STV*, as shown below.



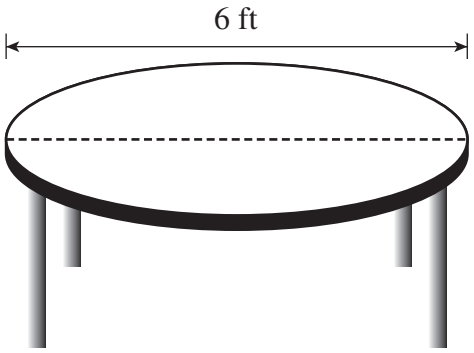
What is the measure of $\angle SVT$?

A 76°
B 52°
C 36°
D 32°

8 The cost of renting a canoe at a park is \$5 per hour. When a canoe is rented, there is also an \$8 charge to rent safety equipment. Which equation describes the relationship between the total cost, in dollars, of renting a canoe at the park (c) and the number of hours the canoe is rented (n) ?

A $c = 13n$
B $c = 5n + 8$
C $c = 8n + 5$
D $c = 13n + 8$

9 The diagram below shows a table with a circular top.



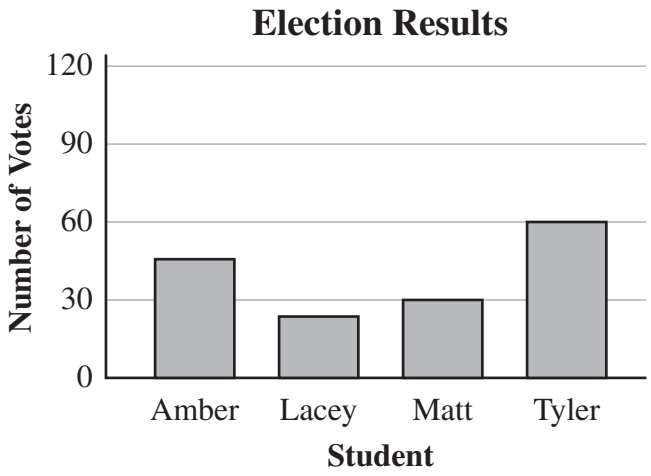
What is the circumference of the circular top of the table?

A 6π ft
B 9π ft
C 12π ft
D 36π ft

Go On

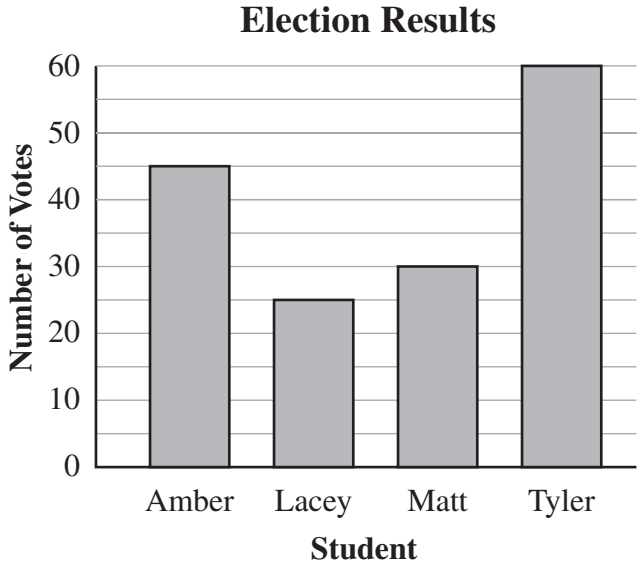
Write your answer to Question 10 on a separate sheet of paper. Be sure to answer Parts A and B.

10 The bar graph below shows the results of an election for class president.



A Based on the bar graph, Amber stated that she received 3 times the number of votes Lacey received. Explain why Amber's statement is **not** accurate.

B A student council member made a second bar graph to show the results of the election. The bar graph the student council member made is shown below.



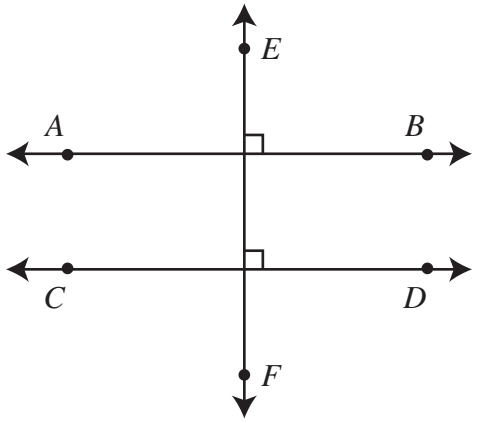
Explain why the bar graph the student council member made is **more** appropriate than the first bar graph for displaying the results of the election.

Go On

11 Simplify: $\frac{\left|3^2 - 6^2\right|}{-3}$

A 15
B 9
C -9
D -15

12 Line *AB*, line *CD*, and line *EF* are shown below.

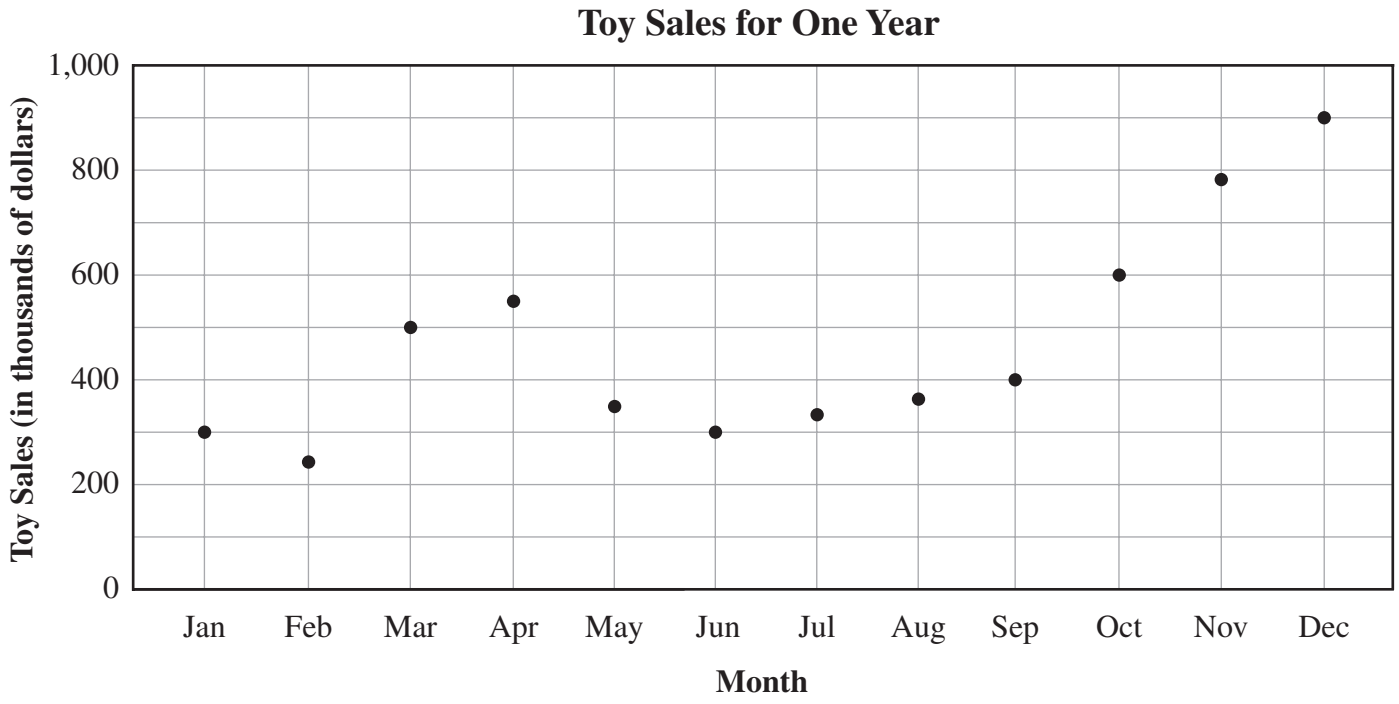


Which statement describing a relationship between line *AB* and line *CD* **must** be true?

A The lines are parallel.
B The lines bisect each other.
C The lines are perpendicular.
D The lines intersect, forming acute angles.

Go On

13 The graph below shows the amount of monthly sales at a local toy store during one year.



Based on the graph, which is the **closest** ESTIMATE of the **range** in the amount of monthly sales at the store during the year?

A $650,000
B $600,000
C $350,000
D $300,000

Go On

14 A builder must divide 36 acres of land into smaller, equal-sized lots. The table below shows the relationship between the number of lots the land could be divided into and the number of acres in each lot.

Number of Lots	2	3	4	5	6	8	9	10	12	15	18	20	30	36	40
Number of Acres	18	12	9	7.2	6	4.5	4	3.6	3	2.4	2	1.8	1.2	1	0.9

Which statement **best** describes the relationship shown in the table?

A Each time the number of lots is doubled, the number of acres in each lot is tripled.
B Each time the number of lots is tripled, the number of acres in each lot is one-third as much.
C Each time the number of lots is decreased by 2, the number of acres in each lot is increased by 3 .
D Each time the number of lots is increased by 3, the number of acres in each lot is decreased by 6 .

15 The proportion $\frac{2.70}{6} = \frac{k}{24}$ can be used to determine the cost, in dollars, of one case of juice at a store (k) . What is the cost of one case of juice at the store?

A \$0.45
B \$0.68
C \$10.80
D \$20.70

16 Which quadrilateral does **not** always have diagonals of equal length?

A square
B rhombus
C rectangle
D isosceles trapezoid

17 Cameron bought a television that was on sale for 20% off the original price. The original price of the television was \$220 . What was the sale price of the television, not including sales tax?

A \$156
B \$160
C \$176
D \$200

Go On

18 At a school carnival, every person who wins a game spins the arrow on a large wheel with five equal-sized colored sections. The color of the section where the arrow stops determines the prize the person receives. The results of the first 250 spins of the wheel are shown in the table below.

Wheel Spins

Section Color	Number of Spins
Red	52
Orange	31
Red	48
Green	29
Yellow	90

For which color section is the **experimental** probability the arrow will stop in it **greater** than the **theoretical** probability the arrow will stop in it?

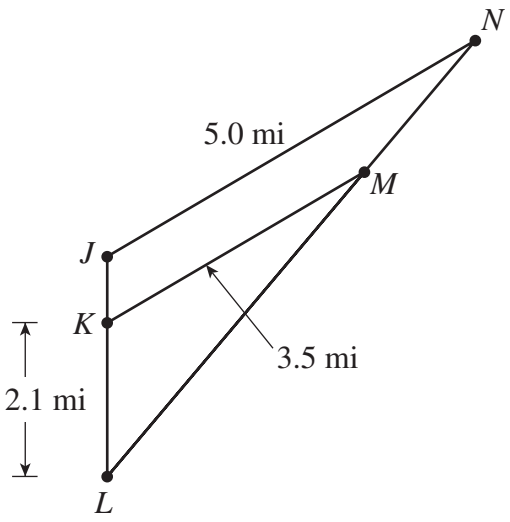
A red
B orange
C green
D yellow

Go On

19 Add: $(c + 4) + (2c - 1)$

A $3c + 3$
B $3c - 5$
C $2c + 3$
D $2c - 3$

20 The diagram below shows part of a map.



On the map, triangle *JLN* is similar to triangle *KLM* . What is the distance from point *J* to point *K* ?

A 5.1 miles
B 3.0 miles
C 1.5 miles
D 0.9 mile

21 Two numbers are missing in the number pattern below.

$-\frac{1}{8}$ $\frac{1}{4}$ $-\frac{1}{2}$ 1 -2 ___ -8 16 ___ 64

Which two numbers are missing?

A 4 and 32
B 4 and -32
C -4 and 32
D -4 and -32

22 After it is cut, a rectangle-shaped piece of glass should be 15.4 centimeters (cm) long and 10.3 cm wide, with a tolerance of 0.14 cm for each measure. When the glass is actually cut, it measures 15.52 cm long and 10.15 cm wide. Based on the tolerance, which **best** describes the length and width of the cut piece of glass?

A The length is acceptable, but the width is too short.
B The length is acceptable, but the width is too long.
C The length is too long, but the width is acceptable.
D The length is too long, and the width is too short.

Go On

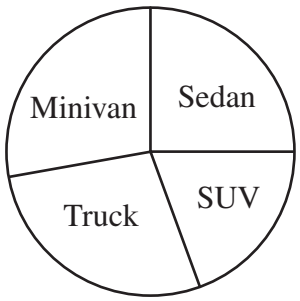
23 Gavin surveyed 500 people about their vehicle preferences. The results of Gavin's survey are shown in the table below.

Vehicle Preferences

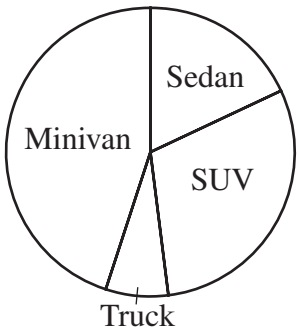
Type of Vehicle	Number of People
Minivan	225
Sedan	90
SUV	150
Truck	35

Which circle graph **best** represents the results of Gavin's survey?

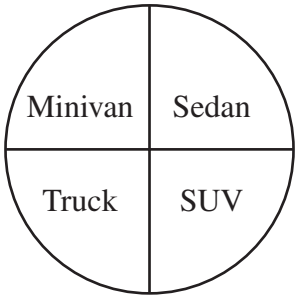
A **Vehicle Preferences**



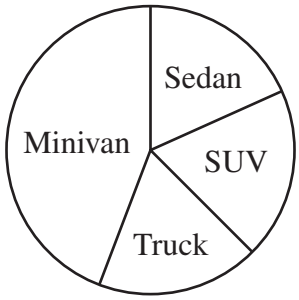
C **Vehicle Preferences**



B **Vehicle Preferences**

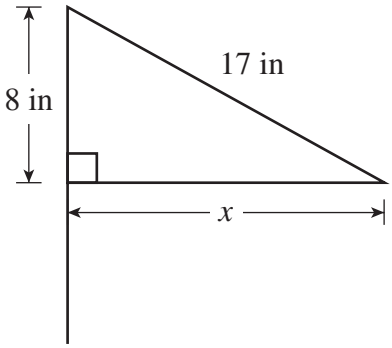


D **Vehicle Preferences**



Go On

24 A flag sold at a local store is in the shape of a right triangle, as shown in the diagram below.



What is the missing length (x) of the side of the flag?

A 25 in
B 15 in
C 13 in
D 9 in

25 Kyle began a car trip to a mountain cabin by driving $4\frac{1}{2}$ hours. He then stopped for 45 minutes for food and gas. After that, Kyle drove for 3 hours 40 minutes before arriving at the cabin. Kyle arrived at the cabin at 1:20 A.M. What time did Kyle begin the car trip?

A 7:35 P.M.
B 6:15 P.M.
C 5:05 P.M.
D 4:25 P.M.

26 Sabrina can spend **at most** \$5, including tax, to buy 3 cards. She finds 2 cards priced at \$1.25 each and 1 card priced at \$1.99, not including tax. Which inequality could be used to determine the amount of money, in dollars, Sabrina can afford to spend on tax (x) when she buys the 3 cards?

A $2(1.25 + 1.99) - x \geq 5$
B $2(1.25 + 1.99) - x \leq 5$
C $2(1.25) + 1.99 + x \geq 5$
D $2(1.25) + 1.99 + x \leq 5$

Go On

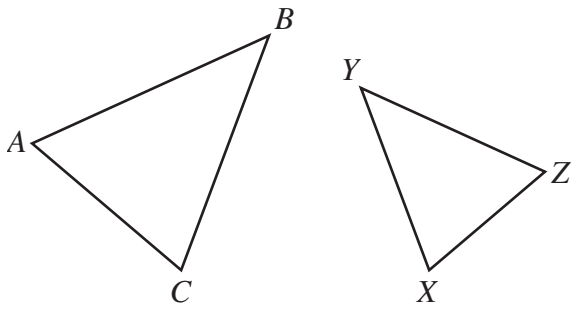
27 What is the value of the expression $\left(\sqrt{12}\right)^2 - \sqrt{12^2 + 5^2}$?

A -5
B -1
C 1
D 5

28 Julia is attending a game at a local stadium. There are 4 entrances to the stadium parking lot, 2 outside entrances to the stadium, 2 entrances to her seating section, and 1 entrance to get to her seat. Which expression can be used to determine the number of different combinations of entrances Julia could use to enter the parking lot, then enter the stadium, then enter her seating section, and then get to her seat?

A $4 \bullet 2 \bullet 2 \bullet 1$
B $4 + 2 + 2 + 1$
C $4 \bullet 3 \bullet 2 \bullet 1$
D $4 + 3 + 2 + 1$

29 In the diagram below, triangle ABC is similar to triangle XYZ .



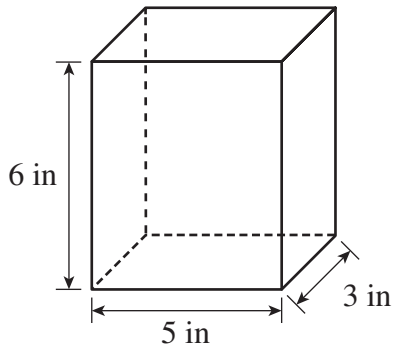
Which angle corresponds to $\angle Z$?

A $\angle B$
B $\angle C$
C $\angle X$
D $\angle Y$

Go On

Write your answer to Question 30 on a separate sheet of paper. Be sure to answer Parts A and B.

30 Gary made a box in the shape of a rectangular prism. The diagram below shows the dimensions of the box.



A Determine the surface area of the box. Show your work.

B The height of the box is 6 inches. Gary believes that doubling the height of the box will double the surface area of the original box. Show or explain why Gary is **not** correct.

Go On

31 Look at the equation below.

$$y = 3x - 1$$

What is the value of y when $x = 17$?

A 50
B 48
C 20
D 6

32 The heights of four vases are listed below.

$$8\frac{3}{8}\text{ in} \quad 8\frac{2}{5}\text{ in} \quad 8\frac{1}{3}\text{ in} \quad 8\frac{1}{2}\text{ in}$$

What is the height of the **tallest** vase?

A $8\frac{3}{8}$ in

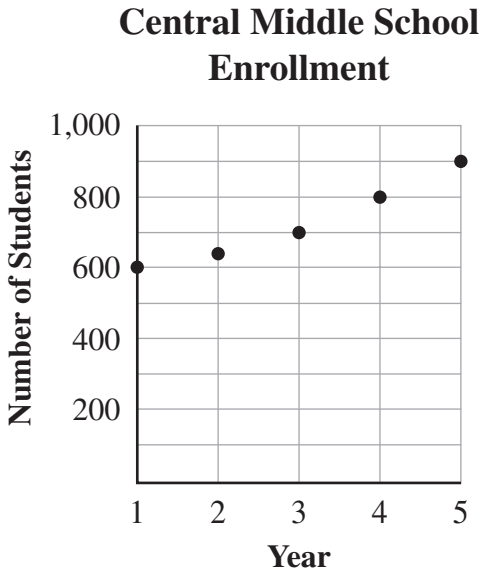
B $8\frac{2}{5}$ in

C $8\frac{1}{3}$ in

D $8\frac{1}{2}$ in

Go On

33 The graph below shows the enrollment at Central Middle School at the beginning of each of five consecutive years.

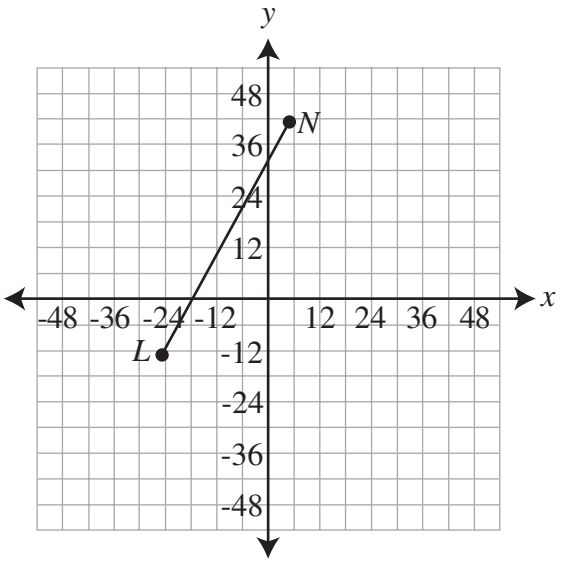


The pattern in the rate of enrollment is expected to continue from year 5 to year 9 . Which is the **best** ESTIMATE of what the enrollment at Central Middle School will be at the beginning of year 9 ?

A between 600 and 900 students
B between 1,000 and 1,100 students
C between 1,200 and 1,350 students
D between 1,400 and 1,550 students

Go On

34 On the coordinate plane below, point N is located at (5, 41) and point L is located at (-25, -13) .



What ordered pair describes the location of the midpoint of line segment LN ?

$\left(\text{Use } \frac{x_1+x_2}{2}, \frac{y_1+y_2}{2}.\right)$

A (-10, 14)
B (-10, 15)
C (14, -10)
D (27, -15)

35 What is the value of x in the equation $-2x - 7 = 15$?

A -0.5
B -4
C -11
D -14.5

36 Which has a mass closest to 1 kilogram?

A 1 ton of bricks
B 1 ounce of salt
C 1 gallon of milk
D 1 pound of potatoes

37 The stem-and-leaf plot below shows the final exam scores of all the students in Gloria's math class.

Final Exam Scores

4	5 7
5	3 8 9
6	5 6 7 9
7	0 5 6 8 8
8	2 4 4 4 7
9	0 1 2 3 5 6 8 9

Key
4 | 5 = 45

Gloria's final exam score can be used to calculate the **range** of the entire class's scores. Which score in the stem-and-leaf plot could be Gloria's final exam score?

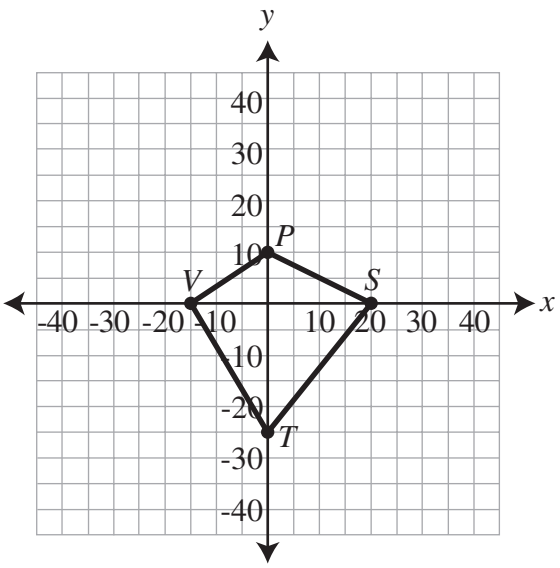
A 47
B 78
C 84
D 99

Go On

38 A cargo ship travels 200 **nautical miles** in 8 hours. The cargo ship continues to travel at the same rate. Which is the **closest** ESTIMATE of the total number of hours it will take the cargo ship to travel a total of 400 **miles**? (1 nautical mile = 1.15 miles)

A 12 hours
B 14 hours
C 16 hours
D 18 hours

39 Polygon *PSTV* is graphed on the coordinate plane below.



Polygon *PSTV* will be enlarged by a scale factor of 2 . What ordered pair describes the location of vertex *S* on the enlarged polygon?

A (22, 22)
B (22, 0)
C (40, 40)
D (40, 0)

40 Ms. Lane has 12 equal-sized cloth napkins in a drawer. The table below shows the number of each napkin color in the drawer.

Ms. Lane's Napkins

Napkin Color	Number of Napkins
Red	3
White	5
Green	4

Ms. Lane randomly selects one napkin from the drawer. What is the probability that the napkin she selects is white?

A $\frac{1}{12}$

B $\frac{1}{3}$

C $\frac{5}{12}$

D $\frac{5}{7}$

Go On

You may want to go back and check your answers or answer questions you did not complete.

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GRADE
8

Nevada

Appendix I

Scoring Support Materials

Grade 8

MATHEMATICS

Correct Answers for Multiple-choice Items

Item Number	Correct Answer	Content Cluster	Ability Level
1	B	C1	A1
2	C	C3	A2
3	A	C2	A1
4	D	C4	A2
5	B	C3	A1
6	C	C1	A3
7	D	C3	A2
8	B	C2	A2
9	A	C3	A2
10	*	C4	A3
11	C	C1	A2
12	A	C3	A3
13	A	C4	A1
14	B	C2	A3
15	C	C3	A3
16	B	C3	A1
17	C	C1	A3
18	D	C4	A3
19	A	C2	A2
20	D	C3	A3

Item Number	Correct Answer	Content Cluster	Ability Level
21	B	C2	A1
22	A	C3	A2
23	C	C4	A2
24	B	C3	A3
25	D	C3	A3
26	D	C2	A3
27	B	C1	A2
28	A	C4	A1
29	B	C3	A1
30	*	C3	A3
31	A	C2	A2
32	D	C1	A1
33	C	C4	A3
34	A	C3	A2
35	C	C2	A2
36	D	C3	A1
37	D	C4	A3
38	B	C1	A3
39	D	C3	A2
40	C	C2	A1

*Indicates a written-response item. See the following pages for the rubrics and examples of responses.

Detailed objectives for Content Standards and Ability Levels can be found on the Nevada Department of Education Website.

Question: 10

Score	Description
3	Student scores 3 points.
2	Student scores 2 – 2.5 points.
1	Student scores 0.5 – 1.5 points.
0	Student's response provides insufficient evidence of appropriate skills or knowledge to successfully accomplish the task.
Blank	No student response.

Description of Score Points:

Part A:	score 1.5 points	correct and complete explanation
	OR	
	score 1.0 point	incomplete explanation
	OR	
	score 0.5 point	vague explanation only
Part B:	score 1.5 points	correct and complete explanation
	OR	
	score 1.0 point	incomplete explanation
	OR	
	score 0.5 point	vague explanation only

Sample 3-Point Answer:

Part A: Explanation must acknowledge that Amber received approximately 2 times the number of votes Lacey received.

Sample explanations:
Amber's statement is not accurate because the height of the bar representing the number of votes Amber received is about double the height of the bar representing the number of votes Lacey received. Therefore, it is more accurate to state that Amber received about 2 times the number of votes Lacey received.

OR

The height of the bar representing the number of votes Amber received is approximately 45 votes, and the height of the bar representing the number of votes Lacey received is approximately 25. Comparing Amber's 45 votes to Lacey's 25 votes, 45 is closer to 2 times 25 (or 50) than 3 times 25 (or 75). Therefore, it is more accurate to state that Amber received about 2 times the number of votes Lacey received.

Part B: Explanation must acknowledge that the graph made by the student council member uses a more appropriate scale and/or more appropriate intervals than the first graph.

Sample explanation:
In the first graph, it is difficult to read the height of the bars representing the number of votes Amber and Lacey received because the intervals are so far apart and the bars stop between gridlines. The graph made by the student council member uses a more appropriate scale and intervals, so all of the bars stop at gridlines and it is easy to read the exact number of votes received by each student.

Question: 30

Score	Description
3	Student scores 3 points.
2	Student scores 2 – 2.5 points.
1	Student scores 0.5 – 1.5 points.
0	Student's response provides insufficient evidence of appropriate skills or knowledge to successfully accomplish the task.
Blank	No student response.

Description of Score Points:

Part A:

score 1.5 points — correct answer with correct work

OR

score 1.0 point — correct answer with incomplete work

OR

incorrect answer due to calculation error, with complete work

OR

score 0.5 point — correct answer with no work

OR

some correct procedure

Part B:

score 1.5 points — correct and complete explanation

OR

score 1.0 point — incomplete explanation

OR

score 0.5 point — some correct procedure

OR

vague explanation only

NOTE: A student who does not correctly label their answer in **Part A** cannot score a 3.

Sample 3-Point Answer:

Part A: 126 in^2

$2(5 \bullet 6) + 2(5 \bullet 3) + 2(6 \bullet 3)$

$2 \bullet 30 + 2 \bullet 15 + 2 \bullet 18$

$60 + 30 + 36$

126

or equivalent work

Part B:

$$\begin{array}{r} {}^{1} \\ 126 \\ \times\ 2 \\ \hline 252 \end{array}$$

$2(5 \bullet 12) + 2(5 \bullet 3) + 2(12 \bullet 3)$

$2 \bullet 60 + 2 \bullet 15 + 2 \bullet 36$

$120 + 30 + 72$

222

$222 \neq 252$

or equivalent work

OR

Sample explanation:
Since the box is 3-dimensional, there are 6 different surface areas on the box. When the height of the box is doubled, this only doubles the area for 4 of the 6 surfaces on the box. Since the area of the other 2 surfaces on the box stays the same, the total surface area is less than double. Therefore, Gary is not correct.

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Appendix II

Administrative Support Materials

Grade 8

MATHEMATICS

Name: _____

Answer Document

Mathematics

1.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
2.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
3.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
4.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
5.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
6.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
7.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
8.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
9.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
10. Written Response				
11.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
12.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
13.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
14.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
15.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
16.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
17.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
18.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
19.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
20.	Ⓐ	Ⓑ	Ⓒ	Ⓓ

21.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
22.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
23.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
24.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
25.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
26.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
27.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
28.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
29.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
30. Written Response				
31.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
32.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
33.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
34.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
35.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
36.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
37.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
38.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
39.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
40.	Ⓐ	Ⓑ	Ⓒ	Ⓓ

WRITTEN RESPONSE
MATHEMATICS

DO NOT WRITE IN THIS SPACE

DO NOT WRITE IN THIS SPACE

STOP

WRITTEN RESPONSE
MATHEMATICS

DO NOT WRITE IN THIS SPACE

DO NOT WRITE IN THIS SPACE

STOP

Nevada Department of Education

GRADE

8

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